CLAIMS

What is claimed is:

1. A fluid ejecting printhead, comprising:

a substrate having a surface;

a columnar group of drop generators formed on the surface that are arranged into subgroups, each subgroup being fluidically isolated from other subgroups on the surface; and

printhead electronics that provide firing pulses to the drop generators such that no two drop generators in the same subgroup are activated in sequence.

2. The printhead of Claim 1, wherein the printhead electronics activates the drop generators in said columnar group of drop generators one at a time.

3. The printhead of Claim 2, wherein the columnar group of drop generators is a primitive, and the substrate comprises a plurality of primitives arranged in a column.

4. The printhead of Claim 1, wherein each subgroup includes a chamber and at least two firing resistors.

5. The printhead of Claim 1, wherein the substrate has a plurality of fluid feed holes formed therein to provide ink to each of the subgroups of drop generators.

6. The printhead of Claim 1, wherein a fluid feed slot is formed in the substrate to provide fluid to all of the subgroups in the columnar group of drop generators.

7. The printhead of Claim 1, wherein the substrate includes a thin film layer that overlays the fluid feed slot, the thin film layer having openings that couple each of the subgroups to the fluid feed slot.

8. The printhead of Claim 7, further including a fluid supply fluidically coupled to the fluid feed slot to supply the feed slot with fluid.

9. The printhead of Claim 8, wherein the fluid supply is a supply of liquid ink.

10. The printhead of Claim 7, wherein the thin film layer comprises a plurality of thin films, the thin film layer forming heater resistors in each of the drop generators.

11. The printhead of Claim 1, wherein the subgroups include a pair of drop generators.

12. A system for delivering fluid, comprising:

a printhead substrate having a surface on which is formed a columnar group of drop generators that are arranged into subgroups, the subgroups being fluidically isolated from each other on the surface;

a printhead control electronics electrically coupled to the printhead, the printhead control electronics proving firing signals to the printhead such that no two drop generators in the same subgroup are activated in sequence.

13. The system of Claim 12, further comprising an apparatus for imparting relative motion between the printhead substrate and a print media.

14. The system of Claim 12, further comprising a fluid source commonly coupled to all of the drop generators in a columnar group.

15. The printhead of Claim 12, wherein a fluid feed slot is formed in the substrate to provide fluid to all of the subgroups in the columnar group of drop generators.

16. The printhead of Claim 15, further including a fluid supply fluidically coupled to the fluid feed slot to supply the feed slot with fluid.

17. The printhead of Claim 16, wherein the fluid supply is a supply of liquid ink.

18. The system of Claim 12, wherein the subgroups include a pair of drop generators.

19. The system of Claim 12, wherein the substrate includes a thin film layer having a plurality of fluid feed holes formed therein to provide ink to each of the subgroups of drop generators.

20. The printhead of Claim 12, wherein the printhead electronics activates the drop generators in said columnar group of drop generators one at a time.

21. The printhead of Claim 20, wherein the columnar group of drop generators is a primitive, and the substrate comprises a plurality of primitives arranged in a column.

22. A method of controlling a printhead, comprising:

providing a printhead having a substrate surface with a columnar group of drop generators formed on the surface that are arranged into subgroups, each subgroup fluidically isolated from other subgroups on the surface; and

providing electrical signals to the printhead to activate the drop generators to eject fluid drops such that no two drop generators in the same subgroup are activated in sequence.

23. The method of Claim 22, further comprising:

providing fluid to the subgroups from a common fluid source.

24. The method of Claim 22, further comprising replacement fluid to the fluid source.

25. The method of Claim 23 wherein the fluid is liquid ink.

26. The method of Claim 22, further comprising providing ink to each subgroup through an opening in a thin film layer.

27. The method of Claim 22, further comprising providing ink to each subgroup through multiple openings in a thin film layer.

28. The method of Claim 22, further comprising providing ink to each subgroup through multiple openings in the substrate surface.

29. The method of Claim 22, wherein said providing electrical signals to the printhead further activates the drop generators such that no two drop generators in the same subgroup are activated simultaneously.

30. An ink jet printhead comprising:

a substrate;

a barrier/orifice structure supported by the substrate and defining an array of nozzles arranged in a plurality of nozzle columns and an array of firing chambers in correspondence with correspondence with the array of nozzles;

the nozzles comprising each column of the array arranged in subgroups of nozzles, each subgroup comprising at least two nozzles, each subgroup fed with liquid ink through a corresponding ink flow path isolated from other nozzles of the array by the barrier layer/orifice structure.

31. The printhead of Claim 30 wherein the ink flow path for each nozzle subgroup includes an opening or set of openings through the substrate, and wherein each nozzle of a nozzle subgroup supplied with ink via said opening or set of openings.

32. The printhead of Claim 30, further comprising printhead electronics that provide firing pulses to the drop generators such that no two nozzles of each nozzle subgroup are fired in sequence.

33. The printhead of Claim 32, wherein the printhead electronics provides said firing pulses such that no two nozzles in a nozzle subgroup are activated simultaneously.

34. The printhead of Claim 30 wherein the barrier/-orifice structure includes a polymer layer.

35. The printhead of Claim 30 wherein the nozzles of each nozzle column have a pitch of 600 nozzles per inch (npi).

36. An ink jet printhead comprising:

a substrate;

a thin film layer disposed on a surface of the substrate, the thin film layer defining a plurality of firing resistors;

a barrier/orifice structure disposed on the thin film layer, the structure defining an array of nozzles arranged in a plurality of nozzle columns and an array of firing chambers in correspondence with correspondence with the array of nozzles;

the firing resistors being arranged in correspondence with the firing chambers;

the barrier/orifice structure further comprising a continuous rib portion extending between adjacent first and second ones of the plurality of nozzle columns to fluidically separate the first and second ones of the nozzle columns.

37. The printhead of Claim 36, wherein the substrate has an ink feed slot formed therein, and the thin film layer has a plurality of ink feed openings formed through

to provide respective ink paths through the substrate and thin film layer.

38. The printhead of Claim 36 wherein said plurality of ink feed openings are arranged in a first group on a first side of said rib portion for feeding nozzles of the first one of said plurality of columns, and a second group on a second side of said rib portion for feeding nozzles of the second one of said plurality of columns.

39. The printhead of Claim 37, wherein the nozzles comprising the array are arranged in subgroups of nozzles, each subgroup comprising at least two nozzles, each subgroup fed with liquid ink through a corresponding ink flow path isolated from other nozzles of the array by the barrier layer/orifice structure.

40. The printhead of Claim 39, wherein the ink flow path for each nozzle subgroup includes an opening or set of openings through the thin film layer and through the substrate, and wherein each nozzle of a nozzle subgroup supplied with ink via said opening or set of openings.

41. The printhead of Claim 39, further comprising printhead electronics that provide firing pulses to the drop generators such that no two nozzles of each nozzle subgroup are fired sequentially.

42. The printhead of Claim 41, wherein the printhead electronics provides said firing pulses such that no two nozzles in a nozzle subgroup are activated simultaneously.

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43. The printhead of Claim 36 wherein the barrier/ orifice structure includes a polymer layer.

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44. The printhead of Claim 36 wherein the nozzles of each nozzle column have a pitch of 600 nozzles per inch (npi).

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